P7P55 WS Supercomputer

Best Graphic Performance and Scalability

- Intel LGA1156 Platform/Intel P55 Express Chipset
- Nvidia® nForce 200
- 3 way/2 way NVIDIA SLI Support & ATI CrossFireX on demand
- CUDA Parallel computing supported
- T.Probe Technology for Active Cooling

CPU	Intel® Socket 1156 Core™ i7 Processor/Core™ i5 Processor Xeon 3400 series server processor Supports Intel® Turbo Boost Technology
Chipset	Intel® P55 Express Chipset Nvidia NF200*1
Memory	4 x DIMM, Max. 16 GB, DDR3 2133(O.C.)*/1600/1333/1066 Non-ECC,Un-buffered Memory Dual Channel memory architecture Support Intel Extreme Memory Profile (XMP) *Hyper DIMM support is subject to the physical characteristics of individual CPUs. Some hyper DIMMs only support one DIMM per channel. Please refer to Memory QVL for details. **Refer to www.asus.com or this user manual for the Memory QVL(Qualified Vendors Lists).
Expansion Slots	2 x PCIe 2.0 x16 (@ x16 or x8) 2 x PCIe 2.0 x16 (@ x8) 1 x PCIe x16 (@ x4) 1 x PCIe x1 (@ x1) 1 x PCI
Multi-GPU Support	Supports NVIDIA® Geforce 3 way/2 way SLI™ techonology Supports ATI® CrossFireX™ technology, up to Quad CrossFireX™
Storage	**Intel® P55 Express Chipset built-in** 6 xSATA 3.0 Gb/s ports Intel® Matrix Storage Support RAID 0,1,5,10
LAN	2 x Realtek 81112L Dual Gb LAN - Support teaming function
Audio	ALC1200-GR 8-Channel High Definition Audio CODEC Multi-Streaming Jack-Sensing Front Panel Jack-Retasking Coaxial / Optical S/PDIF out ports at back I/O ASUS Noise-Filer
IEEE 1394	VIA VT6308S controller supports 2 x 1394a ports
USB	14 USB 2.0/1.1 ports
ASUS Unique Features	**ASUS Hybrid Processor - TurboV EVO** - Auto Tuning, TurboV **ASUS 24 Hybrid Phase Design*** - T.Probe Technology for Active Cooling - 16+3 Phase Power Design *24 Hybrid Phase = 16+3 Phase x T.Probe **ASUS Hybrid OS - Express Gate**

ASUS Workstation Special Features	**ASUS Exclusive Features** - MemOK! - ASUS EPU **ASUS Quiet Thermal Solution** - ASUS Fanless Design: Heat-pipe solution - ASUS Fanless Design: Stack Cool 2 - ASUS Fan Xpert **ASUS Crystal Sound** - ASUS Noise Filter **ASUS EZ DIY** - ASUS Q-Shield - ASUS Q-Connector - ASUS O.C. Profile - ASUS CrashFree BIOS 3 - ASUS EZ Flash 2 - ASUS MyLogo 2 - Multi-language BIOS **ASUS Q-Design** - ASUS Q-LED (CPU, DRAM, VGA, Boot Device LED) - ASUS Q-DIMM 5 PCIe x 16 slots G.P. Diagnosis Card bundled ASUS SASsaby-M/SASsaby Cards support ASUS WS Diag. LED ASUS WS Heartbeat
Overclocking Features	**Precision Tweaker 2** - vCore: Adjustable CPU voltage at 0.00625V increment - vIMC: Adjustable IMC voltage at 0.00625V increment - vDRAM Bus: 81-step DRAM voltage control - vPCH: 2-step chipset voltage control - vCPU_PLL: 4-step reference voltage control **SFS (Stepless Frequency Selection)** - PCI Express frequency tuning from 100MHz up to 200MHz at 1MHz increment - Internal Base Clock tuning from 80MHz up to 500MHz at 1MHz increment **Overclocking Protection** - ASUS C.P.R.(CPU Parameter Recall)
Back Panel I/O Ports	1 x PS/2 Keyboard/Mouse Combo port 1 x S/PDIF Out (Coaxial + Optical) 1 x IEEE 1394a 2 x LAN(RJ45) port 8 x USB 2.0/1.1 8 -Channel Audio I/O
Internal I/O Connectors	24-pin EATX Power connector 8-pin EATX +12V Power connector CPU fan with PWM control Chassis fan1 with Q-fan control Chassis fan2 with Q-fan control Chassis fan3 with Q-fan control PWR fan CD audio in 1 x COM port connector 1 x USB connectors support additional 2 USB ports 2 x USB 2.0/1.1 ports 20-pin Panel connector 1 x IEEE 1394a port

	TPM header
	S/PDIF Out header
	Front panel connector
	1x MemOK! buttom
BIOS	16 Mb Flash ROM , AMI BIOS, Green, PnP, DMI v2.0, Wfm2.0, ACPI v2.0a, SMBIOS v 2.6
Manageability	WfM 2.0,DMI 2.0,WOL by PME,WOL/WOR by PME,WOR by PME,PXE
	1 x 2-port USB and 1-port 1394a module
	ASUS Q-Shield
	1 x ASUS SLI bridge connector
	1 x ASUS 3 way SLI bridge board
Accessories	User's manual
	6 x SATA cable(s)
	1 x com port cable
	3 in 1 Q-connector
	1 x Diagnosis Card(Retail version only)
	Drivers
Support Disc	Anti-virus software (OEM version)
	ASUS Update
	ASUS Utilities
Form Factor	ATX Form Factor
	12 inch x 9.6 inch (30.5 cm x 24.5 cm)

Workstation Engine Essential in Your Professional Studio

The ASUS Workstation Series is the ideal foundation for a powerful PC. It delivers awesome power, dependable performance and unparallel multiple I/O scalability for the most demanding tasks and future upgrades. Also, it provide extreme power saving experience with EUP 6 Engine function. The ASUS Workstation Series intelligently reduces operation noise and dissipates heat through advanced and environmentally friendly methods to accommodate user needs. Don´t change yourself for a computer. Instead, let ASUS Workstation Series improves the quality of your work and life.

ASUS Workstation Exclusive Features

Sufficient IO bandwidth for 2 way and 3 way SLI

The Best Graphic Performance you EVER have

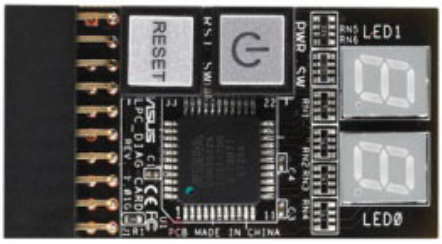
The 3 PCIe run on the speed of 16,8,8 links gives you the most reliable 3-Way SLI graphic performance you ever have when you are engaged in Mechanical / Architecture / Interior / Aircraft / Audio / Video Design or when you are playing games in leisure time. Besides, P7P55 WS SuperComputer provide you the fastest 2-Way SLI graphic performance when you install Geforce graphic cards in the two blue PCIe x16 lots which can work at 16 links.

Diag. LED

Diag. LED checks key components (CPU, DRAM, VGA card, and HDD) in sequence during motherboard booting process. If an error is found, the LED next to the error device will continue lighting until the problem is solved. This usr-friendly design provides an intuitional way to locate the root problem within a second.

G.P. Diagnosis Card (bundled)

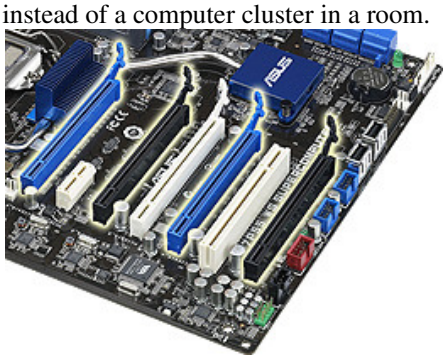
Bundled with the P7P55 WS SuperComputer motherboard, the G.P. Diagnosis card assists users in system checking by effortlessly and quickly providing precise system checks right after they switch on their PCs.



CUDA parallel computing power supported

The motherboard will achieve outstanding and dependable performance in the role of a Personal Supercomputer when working in tangent with discrete CUDA technology—providing unprecedented return on investment. Users can count on up to 4 CUDA cards(One of them should be Quadro graphic card) that are plugged into P7P55 WS SuperComputer for intensive parallel computing on tons of data, which delivers nearly 4 teraflops of performance. It is the best choice to work as a personal supercomputer on your desk

instead of a computer cluster in a room.



ASUS Heartbeat

ASUS Heartbeat Brightly and vividly lighting LEDs shine around the ASUS brand name on the motherboard after successful booting process. With the breath-like deep blue lighting shining in regular tempo, ASUS Heartbeat makes the motherboard as vivid as life.

ASUS SASsaby Card Support

This motherboard is fully compatible with ASUS SAS card (the SASsaby card series, optional). Faster, safer and more stable, SAS will provide users with a better choice for storage expansion and upgrade needs.

CPU, Chipset and Graphics features

LGA1156 Intel® Lynnfield Processor Ready

This motherboard supports the latest Intel® Lynnfield processors in LGA1156 package which has memory and PCI Express controller integrated to support 2-channel (4 DIMMs) DDR3 memory and 16 PCI Express 2.0 lanes providing great graphics performance. Intel® Lynnfield processor is one of the most powerful and energy efficient CPU in the world.

SLI Technology

NVIDIA SLI™ (Scalable Link Interface) takes advantage of the increased bandwidth of the PCI Express bus architecture and features intelligent hardware and software that allows two GPUs to efficiently work together to deliver earth-shattering, scalable performance. For some applications nearly 2X performance! (From www.NVIDIA.com)

Quad-GPU SLI and Quad-GPU CrossFireX Support!

Flexible Multi-GPU solutions, Your Weapon of Choice!

P7P55 WS SuperComputer brings you the multi-GPU choice of either SLI™ or CrossFireX. The motherboard features the most powerful Intel P55 platform to optimize PCIe allocation in multiple GPU configurations. Expect a brand-new gaming style you've never experienced before!

Intel P55

The Intel® P55 Express Chipset is the latest one-chipset design to support latest 1156 socket Intel® Core™ i7/Core™ i5 Processors. Intel® P55 providing improved performance by utilizing serial point-to-point links, allowing increased bandwidth and stability.

PCIe 2.0

Double Speed; Double Bandwidth

This motherboard supports the latest PCIe 2.0 devices for double speed and bandwidth which enhances system performance.

CUDA Technology

NVIDIA® CUDA™ is a general purpose parallel computing architecture that leverages the parallel compute engine in NVIDIA graphics processing units (GPUs) to solve many complex computational problems in a fraction of the time required on a CPU.With over 100 million CUDA-enabled GPUs sold to date, thousands of software developers are already using the free CUDA software development tools to solve problems in a variety of professional and home applications – from video and audio processing and physics simulations, to oil and gas exploration, product design, medical imaging, and scientific research(From www.NVIDIA.com).

Memory Features

Dual-Channel DDR3 2133(O.C.) / 1600 / 1333 / 1066 support

The motherboard supports DDR3 memory that features data transfer rates of 2133(O.C.) / 1600 /1333 / 1066 MHz to meet the higher bandwidth requirements of the latest 3D graphics, multimedia, and Internet applications. The dual-channel DDR3 architecture enlarges the bandwidth of your system memory to boost system performance.

ASUS Xtreme Design - Hybrid Processor

ASUS TurboV EVO

Ultimate O.C. Processor

Whether novice or enthusiast, TurboV EVO satisfies overclockers of any level. Intelligently push systems to the fastest, stable clock speeds with Auto-Tuning. Turbo Key boosts performance with a simple touch, while TurboV offers additional advanced options for breaking those records!

Auto Tuning

Auto System Level Up

Achieve extreme yet stable overclocking results automatically with Auto Tuning! With built-in stability testing, Auto Tuning lets even beginners improve performance with no additional cost.

ASUS Xtreme Design - Hybrid Phase

ASUS Hybrid 16+3 Phase Power Design

Unprecedented Innovation with the Best Quality Component for Best Performance

The groundbreaking Hybrid 16+3 phase VRM design is brought to the ASUS motherboards. Hybrid 16+3 phase power design, 16-phase for vCore and extra 3-phase for Memory controller inside CPU, can provide the highest power efficiency, and hence generates less heat to effectively enhance the overclocking capability. With the high quality power components such as low RDS (on) MOSFETs, Ferrite core chokes with lower hysteresis loss and 100% Japan-made high quality conductive polymer capacitors, ASUS Hybrid 16+3 phase VRM design also ensure longer component life and minimum power loss.

T.Probe

Leading Active Cooling Technology

The T.Probe microchip detects and balances power phase loads and temperatures real-time. With optimal power phase functions, components run cooler and extend system lifespan.

ASUS Xtreme Design - Hybrid OS

ASUS Express Gate SSD

Instant Online! Instant Fun!

Express Gate is an ASUS exclusive OS that provides you with quick access to the Internet and key applications before entering the Windows® OS.

ASUS Exclusive Features

MemOK!

Any Memory is A-OK!

MemOK! quickly ensures memory boot compatibility. This remarkable memory rescue tool requires a mere push of a button to patch memory issues. MemOK! determines failsafe settings and dramatically improves your system boot success. Get your system up and running in no time!

ASUS EPU

System Level Energy Saving

The new ASUS EPU - the world´s first power saving engine, has been upgraded to a new six engine version, which provides total system power savings by detecting current PC loadings and intelligently moderating power in real-time. With auto phase switching for components (which includes the CPU, VGA card, memory, chipset, drives and system fan), the EPU automatically provides the most appropriate power usage via intelligent acceleration and overclocking - helping save power and money.

ASUS Quiet Thermal Solution

ASUS Fanless Design - Heat-pipe solution

The Heat Pipe design effectively directs the vCore area heat to the heatsink near the back IO ports, where it can be carried away by existing airflow from CPU fan or bundled optional fan. The purpose of the innovative heat pipe design on this motherboard is that the groundbreaking fanless design does not have lifetime problems as a chipset fan does. The Heat Pipe design is the most reliable fanless thermal solution to date..

Up to 20°C(36°F) Cooler - Stack Cool 2

Effective and zero-noise heat dissipation

Stack Cool 2 is a fan-less and zero-noise cooling solution offered exclusively by ASUS. It effectively transfers heat generated by the critical components to the other side of the specially designed PCB (printed circuit board) for effective heat dissipation.

Fan Xpert

Active Quiet & Cool

ASUS Fan Xpert intelligently allows users to adjust both the CPU and chassis fan speed according to different ambient temperature , which is caused by different climate conditions in different geographic regions and system loading.Built-in variety of useful profiles offer flexible controls of fan speed to achieve a quiet and cool environment.

ASUS Crystal Sound

8-channel Audio

Enjoy High-End 8-channel sound system on your PC!

The onboard 8-channel HD audio (High Definition Audio, previously codenamed Azalia) CODEC enables high-quality 192KHz/24-bit audio output, jack-sensing feature, retasking functions and multi-streaming technology that simultaneously sends different audio streams to different destinations. This motherboard now adopts the future standard to deliver the most vivid audio enjoyment!!

Noise Filtering

Eliminate background noise while recording

This feature detects repetitive and stationary noises like computer fans, air conditioners, and other background noises then eliminates it in the incoming audio stream while recording.

DTS Surround Sensation UltraPC

DTS Surround Sensation UltraPC delivers exceptional 5.1 surround experience through the most common PC audio setups - your existing stereo speakers or headphones. In addition to virtual surround, “Bass enhancement” provides stronger low frequency bass sound, and “Voice clarification” provides clear human dialogue even with loud background sound. With these technologies, you may experience a better home-theater audio with ease.

ASUS EZ DIY

ASUS Onboard Switch

With an easy press during overclock, this exclusive onboard switch allows gamer to effortless fine-tune the performance without having to short the pins!

Q- Shield

Easy and Comfortable Installations
The specially designed ASUS Q-Shield does without the usual "fingers" - making it convenient and easy to install. With better electric conductivity, it ideally protects your motherboard against static electricity and shields it against Electronic Magnetic Interference (EMI).

EZ-Flash 2

Simply update BIOS from a USB flash disk before entering the OS
EZ Flash 2 is a user-friendly BIOS update utility. Simply launch this tool and update BIOS from a USB flash disk before entering the OS. You can update your BIOS only in a few clicks without preparing an additional floppy diskette or using an OS-based flash utility.

Q-Connector

Make connection quick and accurate!
The ASUS Q-Connector allows you to connect or disconnect chassis front panel cables in one easy step with one complete module. This unique adapter eliminates the trouble of plugging in one cable at a time, making connection quick and accurate.

O.C. Profile

Conveniently store or load multiple BIOS settings
Freely share and distribute favorite overclocking settings The motherboard features the ASUS O.C. Profile that allows users to conveniently store or load multiple BIOS settings. The BIOS settings can be stored in the CMOS or a separate file, giving users freedom to share and distribute their favorite overclocking settings.

Industry Standard

IEEE 1394a interface

IEEE 1394a interface provides high speed digital interface for audio/video appliances such as digital television, digital video camcorders, storage peripherals & other PC portable devices.

S/PDIF-out on Back I/O Port

This motherboard provides convenient connectivity to external home theater audio systems via coaxial and optical S/PDIF-out (SONY-PHILIPS Digital Interface) jacks. It allows to transfer digital audio without converting to analog format and keeps the best signal quality.

RoHS

GreenASUS

The motherboard and its packaging comply with the European Union´s Restriction on the use of Hazardous Substances (RoHS). This is in line with the ASUS vision of creating environment-friendly and recyclable products and packaging to safeguard consumers´ health while minimizing the impact on the environment.

The product (electrical , electronic equipment, Mercury-containing button cell battery) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

- All specifications are subject to change without notice. Please check with your supplier for exact offers. Products may not be available in all markets.
- PCB color and bundled software versions are subject to change without notice.
- Brand and product names mentioned are trademarks of their respective companies.